

Proposed Members for the Satellite Task Force

Thomas C. Adang
Robert E. Gold
Dorothy (Dolly) Perkins
Michael D. Tanner
Robert S. Winokur

**Two additional members will be proposed at the
November SAB meeting**

THOMAS C. ADANG

Dr. Thomas C. Adang is the Systems Director, The Aerospace Corporation, Operationally Responsive Space (ORS) Office. In this position, Dr. Adang is responsible for providing technical leadership and arranging corporate support to the Department of Defense ORS Office as it organizes, equips and trains to provide responsive space capabilities to Joint Force Commanders and other users. Dr. Adang supports the ORS Office as both the Deputy Chief Systems Engineer and Deputy Technical Director.

Dr. Adang joined The Aerospace Corporation in 2000 as a Senior Project Engineer in the Imagery Programs Division, National Systems Group supporting the National Reconnaissance Office (NRO). In 2002, he moved to Civil and Commercial Operations, establishing the Silver Spring Program Office supporting the National Oceanic and Atmospheric Administration (NOAA) Satellite and Information Service and serving as that office's Systems Director. In February 2005, Dr. Adang began a two year Intergovernmental Personnel Act (IPA) mobility assignment with NOAA. In that assignment, Dr. Adang served as the NOAA Technical Director for Integrated Observations and Data Management.

Prior to joining Aerospace, Dr. Adang completed a distinguished 27-year career in the U.S. Marine Corps and U.S. Air Force, including assignments with the NRO and Air Force Space Command, as well as serving as the Air Force Deputy Director of Weather. He has broad experience in aircraft and space vehicle development, testing, and operations.

Dr. Adang has a B.S. degree in Meteorology from Purdue University, a Master of Professional Meteorology degree from St. Louis University, and a Ph.D. degree from the University of Arizona in Atmospheric Physics and Remote Sensing. He is also a graduate of the Air War College.

RECENT EXPERIENCE

2007-Present

OPERATIONALLY RESPONSIVE SPACE (ORS) OFFICE, KIRTLAND AIR FORCE BASE, NEW MEXICO

Systems Director, The Aerospace Corporation

-Serving as Deputy Chief Engineer and Deputy Technical Director for recently established Department of Defense office whose mission critical tasks are to: execute rapid end-to-end capability efforts to meet immediate, urgent space operational needs of Joint Force Commanders; and to develop end-to-end ORS enablers to meet the nation's strategic need for highly responsive space capabilities

2005-2007 **NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION**
Director, Requirements, Planning and Systems Integration Division
 - Served two-year Senior Executive Service-level federal appointment to develop and implement the NOAA integrated Earth observations and data management system architecture and to ensure its linkage with parallel national and international (Global Earth Observations System of Systems) development activities
 - Led 25 person team in establishing NOAA's corporate-level portfolio management system and processes used by the NOAA Administrator in determining how to invest over \$2B annually in observing and data management systems investments

2002-2005 **NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION**
Systems Director, The Aerospace Corporation
 - Established and grew Aerospace team to meet rapidly expanding NOAA support requirements for developing the Geostationary Operational Environmental Satellite-R series (GOES-R) and in establishing corporate processes for system of systems architecture development and sustainment

2000-2002 **NATIONAL RECONNAISSANCE OFFICE (NRO)**
Senior Project Engineer, The Aerospace Corporation

PAST EXPERIENCE

1998-2000 **UNIVERSITY OF CALIFORNIA, BERKELEY**
Commander, AFROTC Detachment 085; Chair, Department of Aerospace Studies; and Director, Military Affairs Program

1997-1998 **HEADQUARTERS, UNITED STATES AIR FORCE, PENTAGON**
Deputy Director of Weather

1994 -1997 **45TH SPACE WING, PATRICK AIR FORCE BASE, FLORIDA**
Commander, 45th Weather Squadron

1993-1994 **AIR WAR COLLEGE, MAXWELL AIR FORCE BASE, ALABAMA**
Student

1992-1993 **2ND WING, BARKSDALE AIR FORCE BASE, LOUISIANA**
Commander, 2nd Operations Support Squadron

1989-1991 **HEADQUARTERS, 8TH AIR FORCE, BARKSDALE AIR FORCE BASE, LOUISIANA** - *Commander, 26th Weather Squadron*

1986-1989 **OFFICE OF SECRETARY OF THE AIR FORCE (OSAF), PENTAGON**
Supervisory Staff Meteorologist, Detachment 1, HQ Air Weather Service

1983-1986 **UNIVERSITY OF ARIZONA, TUCSON, ARIZONA** - **Student**

1981-1983 **LAS VEGAS, NEVADA**, Commander, Detachment 7, Headquarters, Air Weather Service

1979-1981 **SAINT LOUIS UNIVERSITY, ST LOUIS, MISSOURI** - *Student*

1977-1979 **AIR FORCE GLOBAL WEATHER CENTRAL, OFFUTT AIR FORCE BASE, NEBRASKA**

1973-1977 **UNITED STATES MARINE CORPS**

ROBERT E. GOLD

Current Position Space Department Chief Technologist and
Assistant Supervisor of the Space Engineering and Technology
Branch,
The Johns Hopkins University Applied Physics Laboratory
(JHU/APL)

Education B.S. (Physics), The City College of New York, 1965
Ph.D. (Physics), University of Denver, 1972

Positions Held

Space Department Chief Technologist and Assistant Supervisor, Space Engineering & Technology Branch, JHU/APL, 1998-present;
Supervisor, Space Sciences Instrumentation Group JHU/APL, 1992-1998;
Principal Professional Staff, JHU/APL, 1988-present;
Senior Professional Staff Physicist, JHU/APL, 1977-1988;
Physicist, JHU/APL, 1975-1977;
Physicist, University of New Hampshire, 1972-1975;
Graduate Research Assistant, University of Denver, 1967-1972;
Physicist/Engineer, ESC Electronics, Inc., 1966-1967;
Physicist, Quartz Crystal Filters, Burnell and Co., 1965-1966.

Relevant Experience

Co-Investigator and Science Payload Manager, MESSENGER mission to Mercury, 1999-present; Payload Manager, Near Earth Asteroid Rendezvous (NEAR), 1993-2000; Lead Investigator, Advanced Composition Explorer (ACE) ULEIS and EPAM Instruments, 1986-present; Co-Investigator, Ulysses HI-SCALE, 1978-2009; Project Scientist, Co-Investigator, Delta Star Mission for Ballistic Missile Defense Organization, 1988-1991.

Professional Societies

American Geophysical Union, 1969-present
American Institute of Aeronautics and Astronautics, 2007-present

Honors and Awards

NASA Group Achievement Award, NEAR; 1999, Aviation Week and Space Technology Laurels Award for Achievements in Space, 1996, Asteroid 4955Gold named for the work on NEAR, 1996, NASA Group Achievement Award, AMPTE, 1985; STIP Award, 1987; ESA Certificate for Ulysses, 1990; NASA Group Achievement Award, Ulysses Instrument Design, 1992.

Selected Publications (from over 80)

Ho, George C. et al., MESSENGER Observations of Transient Bursts of Energetic Electrons in Mercury's Magnetosphere, *Science*, **333**, 29 September 2011
Feldman, William C., et al., Evidence for extended acceleration of solar flare ions from 1–8 MeV solar neutrons detected with the MESSENGER Neutron Spectrometer, *Journal of Geophysical Research*, **115**, A01102, doi:10.1029/2009JA014535, 2010

- Slavin, James A., et al., MESSENGER Observations of Extreme Loading and Unloading of Mercury's Magnetic Tail, *Science*, **329**, 665 (2010);DOI: 10.1126/science.1188067
- Gold, Robert E., Eng, Douglas A., Guo, Yanping, Dankanich, John, Turtle, Elizabeth P., Oleson, Steven R., Adams, Elena Y., and Seifert, Helmut, Uranus Mission Concept Options, *Journal of the British Interplanetary Society*, 63, 357-62, 2010.
- Gold, R. E., Spacecraft and Objects Left on Planetary Surfaces, Chapter 20 of *The Handbook of Space Engineering, Archaeology, and Heritage*, A. Darrin and B. O'leary eds., 2009.
- Slavin, James A., et al., Mercury's Magnetosphere After MESSENGER's First Flyby, *Science*, **321**, 85-89, 4 July 2008.
- Solomon, Sean C., Ralph L. McNutt, Jr., Robert E. Gold, Deborah L. Domingue, MESSENGER Mission Overview, *Space Sci Rev.*, DOI 10.1007/s11214-007-9247-6, 2008.
- Gold, R. E., et al., A PARIS mission to the Jovian Trojan asteroids, *Proceedings of the 6th International Conference on Low-Cost Planetary missions*, Kyoto, Japan, 2005.
- Desai, M. I.; et al., Spectral Properties of Heavy Ions Associated with the Passage of Interplanetary Shocks at 1 AU, *Ap J*, **611**, pp. 1156-1174, 2004.
- Mason, G. M.; Mazur, J. E.; Dwyer, J. R.; Jokipii, J. R.; Gold, R. E.; Krimigis, S. M., Abundances of Heavy and Ultraheavy Ions in 3He-rich Solar Flares, *Ap J*, **606**, pp. 555-564, 2004.
- Jackson, B. V., et al., The Solar Mass-Ejection Imager (SMEI) Mission, *Solar Physics*, **225**, pp.177-207, 2004
- Gold, R. E., et al., The MESSENGER Science Payload, *Proc 5th Intl Conf on Low-Cost Planetary Missions*, ESTEC, Noordwijk, The Netherlands, ESA SP-542, 2003.
- MacLennan, C. J., et al., Low energy charged particles in the high latitude heliosphere: Comparing solar maximum and solar minimum, *Geophys Res Lett*, **30**, 2003
- Gold, R. E., Solomon, S. C., McNutt Jr., R.L., and Santo, A.G., The MESSENGER Spacecraft and Payload, 53rd International Astronautical Congress, The World Space Congress – 2002, 10-19 October 2002, Houston, Texas, AIAA Publication IAC-02-Q.4.1.02 (2002)
- Hawkins, III, S. E., et al., Origins of anisotropic 40–300 keV electron events observed at low and high latitudes, *Space Sci Revs*, **97**:285–288, 2001
- Gold, R. E., SHIELD: A comprehensive Earth-protection architecture, *Adv. Space Res.*, **28**:1149–1158, 2001
- Gold, R. E., et al., The MESSENGER mission to Mercury: scientific payload, *Planet. Space Sci.* **49**, 1467–1479 (2001)
- Gold, R. E., et al., Electron, proton, and alpha monitor on the Advanced Composition Explorer spacecraft, *Space Sci. Revs.*, **86**, 541–562, 1998.
- Mason, G. M., et al., The Ultra-Low-Energy Isotope Spectrometer (ULEIS) for the ACE spacecraft, *Space Sci. Revs.*, **86**, 409-448, 1998
- Gold, R. E., L. J. Lanzerotti, and C. G. MacLennan, Enhanced low energy (1 MeV) ion fluxes in the outer heliosphere, *Planet. Space Sci.*, **35**, 11, 1359-1366, 1987.
- Gold, R. E., R. B. Decker, S. M. Krimigis, L. J. Lanzerotti, and C. G. MacLennan, The latitude and radial dependence of shock acceleration in the heliosphere, *J. Geophys. Res.*, **93**, 991-996, 1988.

Dorothy C. (Dolly) Perkins

Summary

- Leadership roles in a breadth of NASA projects and engineering line organizations
- Skill in project management
- Demonstrated ability to lead teams and foster successful partnerships
- Technical roots in ground systems, mission operations, software, and data management

Professional Experience

2008 to Present – Independent Consultant

- Co-chair of the independent review team, NOAA GOES-R Ground Segment Project
- Serve on the NOAA-NASA Standing Review Board and the NOAA Independent Review Team, NOAA GOES-R Program
- Chair of independent review team, JPSS Ground System
- Chair of the Standing Review Board, NASA Space Network Ground Segment Sustainment Project
- Performed a management and operations study of the Comprehensive Large Array-data Stewardship System for NOAA
- Serve on the Independent Review Team, NASA NPOESS Preparatory Project (NPP)

NASA/GSFC 1/1981 – 12/2007

Deputy Center Director – Technical, 2004-2007 (retired December 2007)

Supported the Center Director in overseeing all new business ventures, flight project activities, and partnerships. Led center strategic planning activities. Significant accomplishments:

- Reengineered new business process to define lines of business for the center and to assure strong partnerships, critical review by senior executives, and effective decision processes on which work to pursue
- Assured that all research and development activities aligned with Center strategic goals, and supported scientific and engineering proposal activities
- Negotiated strong partnership with NOAA for the next generation Geostationary Operational Environmental Satellites (GOES-R series)
- Led the review board that investigated the loss of the Mars Global Surveyor spacecraft, with members from NASA HQ, JPL and GSFC.

Director of Flight Programs and Projects, 2002-2004

Oversaw implementation of all GSFC flight projects, including management of cost, schedule, performance and risk.

- GSFC-managed spacecraft launched during my tenure included TDRS-J, ICESat, SORCE, Aqua, GALEX, and NOAA-M
- Major missions in development included HST Servicing Mission 4, Aura, Swift, Calipso, JWST, STEREO, GLAST, GOES-N, NPP, NOAA N', LRO and SDO
- The Directorate managed on-orbit operations of more than two dozen missions
- Sustained multiple partnerships with other NASA Centers, other government agencies and foreign space agencies

Deputy Associate Director of Flight Projects for Earth Observing System Operations/Manager, Earth Science Data and Information System Project, 1998-2002

Led recovery and successful implementation of the largest civilian information system in the world (the EOS Data and Information System) responsible for multi-satellite operations, and processing and distribution of scientific data for Earth science researchers and policy makers.

- Defined alternative approach to system to allow successful implementation while controlling cost, schedule and risk
- Successfully supported the launch and operation of the Earth science flagship mission, Terra and prepared for the launches of Aqua, ICESat and Aura
- Managed expectations of and interface to more than 20 science/instrument teams who had a stake in the program.

Previous Positions

- Deputy Director of Applied Engineering and Technology, 1998
- Mission Systems Manager for the Space Operations Management Office (GSFC position reporting to JSC), 1997-1998
- Chief, Mission Operations and Data Systems Development Division, 1994-1997
- Deputy Chief, Mission Operations Division, 1990-1994
- Head, Data Systems Applications Branch, 1987-1990
- Head, Software Engineering Section, 1984-1987
- Manager, Transportable Applications Executive project, 1981-1984

Major Awards

- Presidential Rank Award for Distinguished Executive (2006)
- Presidential Rank Award for Meritorious Executive (2000)
- NASA Distinguished Service Medal (2007)
- NASA Outstanding Leadership Medal (2001)
- NASA Exceptional Service Medal (1990 and 1994)

Education

Bachelor of Arts in Mathematics, Wellesley College

Other

- Member, National Weather Service Modernization Committee, Commission on Engineering and Technical Systems, National Research Council, 1996 - 1998
- NASA Inventions and Contributions Award, 1989

MICHAEL D. TANNER

SUMMARY

Currently the Senior Advisor at the National Oceanic and Atmospheric Administration (NOAA) National Climatic Data Center (NCDC). Responsibilities have spanned over 25 years of experience in program management and technical management of numerous nationally critical developmental and operational multi-billion dollar projects. Previous experiences have included the inter-governmental Group on Earth Observations (GEO), NOAA, NASA, National Reconnaissance Office (NRO), United States Air Force and industry projects in civil, commercial and defense programs. Co-authored the NOAA Climate Service Strategic Vision Framework, the US Global Change Research Program (USGCRP) Strategic Plan, USGCRP Integrated Climate Observation Plan and the Global Climate Observing System (GCOS) Implementation Plan. Managed the international GEO Climate and Satellite portfolio. Technical expertise entails a broad range of science and engineering including space and ground system architecture planning, operations concept definition, strategic planning, financial analysis, acquisition strategy, statement of work development, proposal evaluation, customer and contractor technical interfacing, technical analysis, flight operations, risk management, satellite operations, launch systems integration, and system integration and test. Have successfully managed large multi-agency and multi-contractor teams. Routinely represents the US government to Congress and the Executive Office of the President.

EXPERIENCE

Senior Advisor, National Climatic Data Center (NCDC), National Oceanic and Atmospheric Administration (NOAA)

Senior Program Officer, Group on Earth Observations (GEO) Secretariat in Geneva, Switzerland

Director of Technology, Planning and Integration Office at NOAA Satellite and Information Service

Senior Program Advisor, NOAA Satellite and Information Service

Associate Director, Studies and Analysis Division, Office of Program Analysis and Evaluation at NASA/HQ

Program Manager, Federal Emergency Management Administration (FEMA) Hurricane Katrina/Rita Joint Field Office at Austin, TX

Associate Director for Program Integration, Advanced Planning and Integration Office at NASA/HQ

Associate Director, Earth Observation System, Office of Earth Science at NASA/HQ

Program Manager, Earth System Science Pathfinder Program, Office of Earth Science at NASA/HQ

AQUA Flight Operations Manager at NASA Goddard Space Flight Center

QuikTOMS Launch System Integration Manager at NASA Goddard Space Flight Center

Earth Explorers Program Senior Systems Engineer at NASA Goddard Space Flight Center

Galaxy Evolution Explorer (GALEX) Mission Operations Manager at Orbital Science Corporation

Launch Integration Program Manager at L3 Communication Systems - West, Space & Satellite Control Division

Chief, Spacecraft Test and Launch Operations Division at National Reconnaissance Office (NRO)

Chief, Satellite Launch Operations Division at NRO Mission Control Complex-12

Program Manager, Special Operations Mission-22 at NRO Operations Directorate-4

Satellite Operations Director at NRO Mission Control Complex-7

Launch Vehicle Integration Manager at Secretary of the Air Force Office of Special Projects

Executive Officer to the Commander, Western Space and Missile Center at Vandenberg Air Force Base

Chief, Inter-range Operations, Aerospace Test Group at Vandenberg Air Force Base

Space Shuttle Payload Manager, Shuttle Test Group at Vandenberg Air Force Base

Teaching Assistant, University of Notre Dame Environmental Research Center

EDUCATION

Acquisition Program Management Certification Level III - Defense System Management College

Air Command and Staff College

Squadron Officer School

Officer Training School

M.S. Research and Development Management, West Coast University

B.S. University of Notre Dame

HONORS AND AWARDS

NOAA Employee of the Month

NASA Office of Earth Science Engineer of the Year Award
NASA Outstanding Teamwork Award
NASA Group Achievement Award
National Space Club Nelson P. Jackson Award for Outstanding Aerospace Achievement
Aviation Week and Space Technology Aerospace Laurel Award
Defense Meritorious Service Medal
Joint Service Commendation Medal, 2 Oak Leaf Clusters
Joint Service Achievement Medal, 2 Oak Leaf Clusters
Air Force Commendation Medal
National Defense Service Medal
Cold War Service Medal
Gulf War Service Medal
Air Force Longevity Service Award, 4 Oak Leaf Clusters
Air Force Organizational Excellence Award
Air Force Outstanding Unit Award
Air Force Kiefer Award: Officer Training School #1 Graduate
Air Force General Chappie James Humanitarian Award
Foreign Study League Student of the Year

INTERESTS

American Institute of Aeronautics and Astronautics (AIAA) Life Member
National Space Foundation Member
United States Soccer Federation Referee
United States and Japanese Karate Federations: Black Belt, Shotokan Karate

Robert S. Winokur



Deputy and Technical Director Office of the Oceanographer of the Navy Chief of Naval Operations

Mr. Winokur is the Deputy and Technical Director, for Oceanography, Space and Maritime Domain Awareness and Deputy Oceanographer of the Navy, Chief of Naval Operations. He has been in this position since December 2003 and previously occupied this position from August 1985 to October 1993. He serves as the senior civilian manager and scientific/technical advisor responsible for technical oversight, coordination and assessment of the naval oceanography and space programs within the office of the Chief of Naval Operations, and for developing and coordinating policy matters for naval oceanography at the national and international level. Mr. Winokur entered the Senior Executive Service in April 1980 and has over 45 years of federal service along with almost 5 years in the private sector.

In addition to his current position, Mr. Winokur has served in a variety of executive positions in the government and industry. From October 2000 to November 2003 he was President and Chief Operating Officer of the Earth Satellite Corporation where he was responsible for the operation of EarthSat's remote sensing, weather, environmental, GIS and image processing business areas. Between May 1999 and October 2000 he was Vice President of the Consortium for Oceanographic Research and Education where he fostered and guided oceanographic programs involving academic, federal and non governmental organizations, managing the program support offices for the National Oceanographic Partnership Program, the Census of Marine Life and the National Ocean Sciences Bowl, and provided staff direction for the development of a framework for an integrated ocean observing system. From November 1993 to April 1999 Mr. Winokur served as the Assistant Administrator for Satellite and Information Services at the National Oceanic and Atmospheric Administration directing an integrated program for the development and operation of the nation's civil weather and environmental operational satellites, along with the management of the National Oceanographic, Climatic and Geophysical Data Centers. In addition, from June 1997 to February 1998, he served as the Acting Assistant Administrator for Weather Services (Director, National Weather Service) and was responsible for leading the activities of the National Weather Service. Between March 1989 and January 1991 he served as Deputy Director, Anti-submarine Warfare Development, Office of the Assistant Secretary of the Navy, providing technical management and policy direction for ASW technology and undersea warfare programs. From April 1980 to July 1985 Mr. Winokur served in the Office of

Naval Research as Assistant Technical Director for Ocean Science and International Programs and held a collateral position from August 1981 to October 1982 as Director, Planning and Assessment. In these positions he provided technical and policy guidance for the Chief of Naval Research for the Navy's Ocean Science Program, management oversight for the Office of Naval Research foreign offices, and for the formulation and investment strategy for ONR's research programs.

Mr. Winokur has a bachelor's degree in geology from the Rensselaer Polytechnic Institute and a master's degree in Technology of Management in Marine Affairs from The American University.

His honors and awards include: Department of the Navy Meritorious Civilian Service Award, 1974, 2009; Department of the Navy Superior Civilian Service Award, 1985; Department of the Navy Distinguished Civilian Service Award, 1993; Presidential Meritorious Executive Rank Award, 1987, 1996; Presidential Distinguished Executive Rank Award, 1990; Department of Commerce Gold Medal, 1995; Vice President's Hammer Award for Reinventing Government, 1995, 1998; National Public Service Award, National Academy of Public Administration, 1999; Roger Jones Public Service Award, The American University, 1999; Fellow, Acoustical Society of America, Fellow, The Marine Technology Society and Fellow, American Meteorological Society.

Mr. Winokur has served as the Vice President of the Marine Technology Society and as President of the Alliance for Marine Remote Sensing. He is also a member of the Acoustical Society of America, the American Geophysical Union and the American Meteorological Society. He has served on and chaired numerous national and international committees on undersea technology, antisubmarine warfare, submarine security, ocean and satellite remote sensing observing systems, Arctic research, oceanographic ship management and operations, disaster information technology and management, remote sensing policy, national ocean policy and oceanographic facilities.